ज्ञान-विज्ञान विमुक्तये

MALAVIYA MISSION SCHEME TEACHER'S TRAINING PROGRAMME

Refresher Course on Deployment of Advanced Semiconductor devices, Microelectronics and VLSI for proficient Embedded System Design

About the Course

The core objective of this refresher course is to provide hands on training on advanced wide bandgap semiconductor material systems, focusing on group III-V compound semiconductor materials based heterojunction transistors and their potential integration into VLSI circuits. The course offers practical training in TCAD-based device modeling, as well as a comprehensive understanding of the modern fabrication processes of semiconductor devices, including CMOS, MOSFET, and HEMT technologies, along with digital IC design and implementation. Additionally the course covers learning of Embedded subsystem design procedures, realization and application of ARM processors and development of real-time Embedded systems.

Programme Highlights

- Implementation of novel semiconductor devices with practical applications, interoperability with globally standardized VLSI processes, and strategic alignment with the India Semiconductor Mission.
- Modeling next-generation group III-V compound materials based heterojunction transistors using TCAD Simulation.
- Comprehensive understanding of the modern fabrication processes of semiconductor devices, such as CMOS, MOSFET, and HEMT.
- Application of VLSI for Embedded subsystem design and exploring the techniques of developing the real-time Embedded System Designs.

Salient Features of the Course

- The Refresher Course will be conducted over a period of 12 days, with each day comprising of up to six hours of sessions.
- The programme will include expert lectures, practical hands-on sessions, and other engaging activities. An MCQ-based assessment examination will be conducted at the end of the course.
- ***This course will be considered for fulfillment of the requirements as laid down by UGC for the Career Advance Scheme.***
- Application/registration is free of cost. Participants' Certificate will be issued to those who have attended all the sessions and have qualified for the assessment examination.
- Campus Accommodation for outstation participants may be arranged on a first-come, first-served basis (on payment basis).
- Complimentary food and refreshments would be provided for the entire duration of the course (for maximum 50 participants).

ज्ञान-विज्ञान विमुक्तये

MALAVIYA MISSION SCHEME TEACHER'S TRAINING PROGRAMME

11-22 December, 2025

Course Coordinator:
Prof. Kaushik Mazumdar

MMTTC Coordinator:
Prof. Mrinalini Pandey

Application Process

Participants should first register at https://mmc.ugc.ac.in as **Participant** using their email ID (if not already registered). After successfully logging in, navigate to the Participant **Dashboard**, click on **Apply for Other Programmes**, and select **Refresher course / Faculty Development** from the drop-down list under **Apply for**. Search and choose **Programme Name & Center Name** as "**IIT (ISM) Dhanbad (11-22 December, 2025)**", select the **Refresher Course** Programme Title as mentioned, and complete the application form.

Application Deadline: 15 September, 2025

Registration Fee: Nil

Participant's Eligibility Criteria

Faculty members from Central / State government educational institutes, Deemed / Deemed to be Universities, Private Universities, Institute of National Importance, Colleges, and other institutions recognized under the UGC Act are eligible. Teachers from colleges that do not fall under the purview of Section 2(f) UGC Act, but have been affiliated to a University for at least 3 years, will also be permitted to participate in the course. * Selection on first-come, first-served basis (limited to 50 participants only).

Resource Persons

Eminent experts from premier institutes such as IIT / NIT / University / Industry / Research organization would be joining as resource persons.

Contact Details

Prof. Kaushik Mazumdar,
Dept. of Electronics Engineering, IIT (ISM) Dhanbad.
Email: kaushik@iitism.ac.in [Phone: +91-9771420587 (M)]

ज्ञान-विज्ञान विमुक्तये

MALAVIYA MISSION SCHEME TEACHER'S TRAINING PROGRAMME

Refresher Course On

Deployment of Advanced Semiconductor devices, Microelectronics and VLSI for proficient Embedded System Design

11-22 December, 2025

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES) DHANBAD
[Established in 1926]

https://www.iitism.ac.in

Programme Venue

Indian Institute of Technology (Indian School of Mines) Dhanbad, Jharkhand, India-826004